# KNOWLEDGE FOUNDATION: EDUCATION FOR SUSTAINABLE DEVELOPMENT

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## Contents

## Summary

This article provides an overview of the knowledge foundations for education for sustainable development. It first discusses the sociological foundations with an emphasis on sustainable society and use of environmental strategies in achieving sustainable development. It then explores the tensions between anthropocentrism and biocentrism and the progression from behaviourism to constructivism, from the philosophical and the psychological perspectives respectively. It also examines the economics perspective of development. In addition, this chapter also attempts to synthesise different views of education for sustainable development by examining three ideologies, namely conservative, liberal and socially critical. These ideologies define and justify their own interpretations of sustainable development and environmental strategies for achieving sustainable development as well as underpin their respective

sociocultural and associated educational paradigms. Moreover, they suggest different approaches to environmental education.

## 1. Introduction

Since the Earth Summit in 1992, sustainable development has become a popular term, and education has been viewed as one of the major vehicles for achieving sustainability. The UN has declared 2005 to 2014 as the Decade of Education for Sustainable Development (DESD) (UNESCO, 2003). Whilst different scholars refer to such various terms as *environmental education*, *environmental education for sustainable development*, *education for sustainable development*, *environmental education for sustainability* and *education for sustainability*, this chapter regard these terms as broadly similar and interchangeable. This chapter provides an overview of education for sustainable development, which is divided into two strands, namely the knowledge foundations of education for sustainable development, and the spectra of formal and non-formal education. The knowledge foundations include the sociological, economics, philosophical and psychological aspects. The spectra of formal and non-formal education discuss the theories and practices of environmental education at the primary, secondary and university level, as well as non-formal and adult education.

## 2. Meaning of Education for Sustainable Development

The term "education for sustainable development" contains two parts, namely education and sustainable development. In *Our Common Future*, the World Commission on Environment and Development defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This document further suggests that "our inability to promote the common interest in sustainable development is often a product of the relative neglect of economic and social justice within and amongst nations" (p.49).

In *Caring for the Earth*, it argues that education should play a vital role to ensure that people learn, accept and live by the principle of sustainable living, which depends on seeking harmony with other people and with nature. According to the Principle 1 of the Rio Declaration on Environment and Development, "human beings are the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature". Furthermore, according to the "Treaty on Environmental Education for Sustainable Societies and Global Responsibility" developed in the Earth Summit in 1992, the goals of environmental education are to:

- bring about change in the quality of life;
- develop greater consciousness of personal conduct;
- create harmony among humans and between them and other life forms;
- promote the transformation and construction of societies;
- promote solidarity, equality and respect for human rights;
- facilitate equal partnerships in decision-making;
- empower people and promote grassroots democratic change and participation;
- help in conflict management and stimulate dialogue and co-operation;

- create new lifestyles that would meet basic human needs without violating the environment, and
- develop an ethical awareness of all forms of life.

Sustainability is another term closely related with sustainable development. Some refer sustainability to sustaining intergenerational economic welfare, maximising the time of existence of human being, and sustaining nature and its diversity, whilst others explain sustainability in four aspects:

- *economic sustainability*: development is economically efficient and the benefits of such development are distributed between generations;
- *social sustainability*: development should increase people's control of their own lives and allow all social groups to participate in decision-making;
- *cultural sustainability*: development should maintain the range of social and ethnic groups and recognise the value of their heritage and traditions, and
- *ecological sustainability*: development should consider the maintenance of ecological processes, biological diversity and biological resources.

There has been a divergence of meanings about sustainable development and sustainability and these meanings could be explored from social, economic and ethical perspectives. The economic perspective raises such questions as: "What kind of development is to be sustained? Is it economic growth? What is quality of life and ecosystem integrity?" The ethical perspective explores questions such as: "What is our moral obligation to future generations?" "Why ought the human species survive? Should environment be protected for its own sake?" "How should I think and act in a people-environment relationship?"

Education is a complex term, which involves learning and the transmission of something that is worthwhile. Education, however, is not indoctrination and such transmission should be implemented in a morally unobjectionable manner. Some further consider that education should be primarily concerned with enabling people to think for themselves and to lead a better life. Education has various educational theories, which reflect value judgements about worthwhile activities and educational processes. The building of these educational theories to a certain extent has been influenced by disciplines such as philosophy, sociology and psychology. Since the 1970s, there has been a call for action research, which is concerned with the generation of educational theories from practitioners themselves out of their reflected practices.

This article also attempts to synthesise different views of education for sustainable development by examining three ideologies, namely conservative, liberal and socially critical. These ideologies define and justify their own interpretations of sustainable development and environmental strategies for achieving sustainable development as well as underpin their respective sociocultural and associated educational paradigms. In addition, they suggest different approaches to environmental education. These three ideologies broadly represent what Jürgen Habermas has suggested as three types of interests, namely technical, practical and critical (Table 1).

| Ideology | Conservative | Liberal | Socially Critical |
|---|---|---|---|
| Habermas's knowledge and constitutive interests | Technical | Practical | Critical |
| Human nature | Humans are inherently unproductive and individualistic | Humans are inherently unproductive but have goodwill | Humans are inherently productive and co-operative |
| Human goals | Maximum personal liberty and material well-being | Individual equality and equal opportunity | Social equality based on individual needs |
| Environmental paradigm (Milbrath, 1984) | Dominant Social Paradigm (DSP) | | |
| | New Environmental Paradigm (NEP) | | |
| Environmental position (based on O'Riordan, 1981) | Technocentric Accommodator, Deep Self-reliance. Technologists and managers | | Ecocentric Cornucopian, Soft Interventionist. Environmental ecologists, and communalists |
| Sociocultural paradigm (Sauvé, 1996, p.17) | Industrial | Existential | Symbiosynergic |
| Associated educational paradigm and principal characteristics (Sauvé, 1996, p.17) | Rational: transmission of predetermined knowledge | Humanistic: Optimal development of the many dimensions of the learner ("freedom to learn") | Inventive: Critical construction of knowledge for social transformation |
| Curriculum perspective (Stevenson, 1993) | Empirical-analytical | Interpretive | Critical |
| Approaches to environmental education (EE) | Education ABOUT the environment | Education IN environment | Education FOR the environment |
| Examples of EE pedagogical approaches (Sauvé, 1996, p.17; ) | Formal presentation; modules approaches for training | Nature education | Socially critical environmental education |

Table 1. A typology showing the relationships amongst ideologies, environmental paradigms, sociocultural paradigms, educational paradigms and approaches to environmental education

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